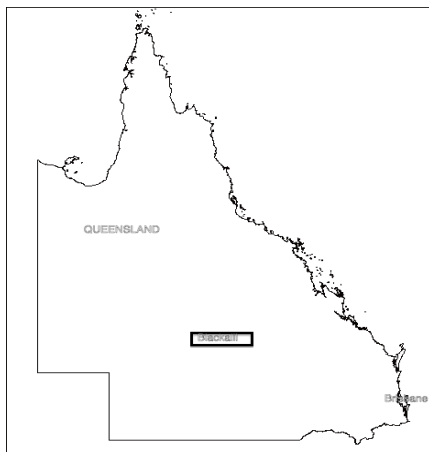


Nomination of the
Blackall Woolscour
Blackall, Queensland

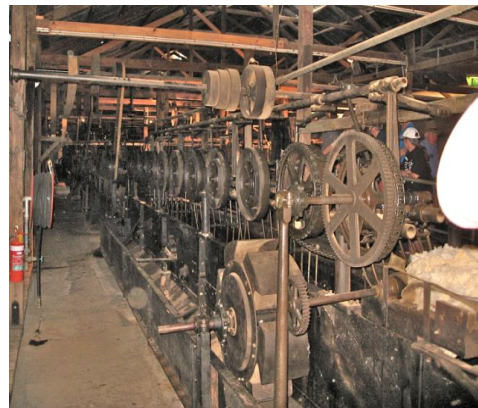


Woolscour, artesian bore & powerhouse

***for* ENGINEERING HERITAGE RECOGNITION**
***under* Engineering Heritage Australia's**
Engineering Heritage Recognition Program



Blackall Location



Scour line drive and bins

Submitted by: Engineering Heritage Australia (Queensland Panel).

Prepared for EHA(Q) by Panel member B. L. McGrath, PSM.

27 January 2014

Basic Data

Item Name:	Blackall Woolscour
Location:	Evora Road, Blackall, Queensland 4472. It is situated 4km north-east of the town centre.
Nearest City:	Rockhampton, (686km)
Nearest Town:	Blackall, (4km)
State:	Queensland
Local Government Area:	Blackall-Tambo Regional Council
Owner:	Blackall Historical Woolscour Association Inc.
Current Use:	Major Tourist Attraction
Design Firm:	Unknown
Design Supervision:	Unknown
Contract Constructors:	For the main building, Messrs Renshaw and Ricketts, builders, of Rockhampton
Year Started:	1907
Year Completed:	1908
Physical Description:	The woolscour is housed in a collection of generally iron-clad timber trussed sheds scattered across the site. The largest contains equipment for shearing, wool scouring and handling. The original flowing artesian bore, and relics of the railway spur line, exist on site. It ceased scouring operation in 1978.
Physical Condition:	Restored by volunteers since 1989 to operating condition.
Modification & Dates:	Electric light (110v DC) installed in 1910. The second scouring line was installed a few years after the first, and, over time, occasional modifications were made to the installed machinery, primarily to increase throughput capacity.
Heritage Listings:	Queensland Heritage Register, Place ID 600033 National Trust of Queensland Register, No. BLK 2/1 Australian Government's Heritage Database, ID 17937

History

John Macarthur is credited with the introduction to Australia, in the very last years of the eighteenth century, of the outstanding wool-producing sheep, the merino. The number of sheep in the colony very quickly exploded, and it may truly be said that Australia's fortune was established "on the sheep's back". The merino wool however needs washing to remove its lanoline "greasiness" and any dust, leaves and twigs enmeshed in it. Until about 1840, this was accomplished by washing the fleece on the sheep, but from that date, hand-washing of the sheep was gradually replaced by scouring of the fleece after shearing. In the early years, scouring was carried out by manual methods, but by the late nineteenth century, steam-driven mechanised scouring was the norm. In areas where the fleece was highly contaminated by vegetable matter, it was first treated by carbonising, ie passing the fleece through a bath of sulphuric acid and a heat chamber, then crushing the now brittle vegetable matter. Fortunately, the western area of Queensland grew fleeces that were low in vegetable matter so carbonising was not required.

Commencing in the 1890s, by the 1920s large steam-powered mechanical scours had been established in rural Australia. In Queensland, mechanical scouring works were established in Charleville, Barcaldine, Ilfracombe, Longreach, Winton, Julia Creek, Richmond, Maxwellton, Alba and Blackall.

A woolscour required a reliable supply of water. In Blackall, late in 1885, drilling for artesian water had commenced under the guidance of Queensland's water resources pioneer, engineer John Baillie Henderson. This first attempt was unsuccessful, but a second attempt in April 1888 resulted, at a depth of 1645feet (501m), in "an abundant supply of overflowing, sparkling, fresh artesian water, excellently adapted for domestic purposes".

A hand scour was established in Blackall around 1893 near the town bore, and it was later moved to a property outside the town. In 1905, coinciding with the construction of the railway line to Blackall, the Blackall Proprietary Woolscouring Company was formed, with local grazier and business man Mr J H Hart as chairman and A H Whittingham, James Moffat, M J Ryan and James McKenzie the other investors in the Company.

The company's first action was to call tenders for a bore. Drilling commenced in July 1906, and *The Western Champion and General Advertiser for the Central-Western Districts*, (Barcaldine) reported on 24 February 1907 that the bore was completed in early 1907 at a depth of 2507feet (764m), the measured flow showing an initial daily output of 1 300 000gallons (5.9ML). Other reports give a final depth of 2568feet (783m) and a maximum flow of 650 000gallons (3ML) per day. In its heyday, the scour operation used 200 000gallons (0.9ML) per day of the 58°C water. The bore was equipped in 1910 with a generating plant of 110V capacity, driven by a Pelton wheel. Electric light was supplied to the woolscour and the manager's premises from this generator which was replaced

in the late 1920s by a Kohler, Model D, portable electric plant (No.20218), 110V DC, 1000watts. Both these generators are still on site.

In July 1906, the Blackall Proprietary Woolscouring Company called tenders for the design and erection of the main building to specified dimensions and shape, and awarded the contract to a well-established builder from Rockhampton, Messrs Renshaw and Ricketts. Construction commenced later that year, and was well-advanced by January 1907 when the *Rockhampton Morning Bulletin* reported that “a bushfire has threatened the partially completed Woolscour”.

The initial installation of scouring machinery comprised one scour line with tanks and dryer imported from respectively William McNaught and John Petrie Ltd, both of Rockdale, England. A second scour line was installed in 1915, with the tanks manufactured by the Melbourne firm Hall Bros. and the dryer again from John Petrie Ltd. Each scour line then treated different parts of the fleece, No. 1 line used for locks and stained pieces and No.2 line for fleeces. The scour lines were driven by almost parallel overhead shafting with belt-driven pulleys. Power for the shafting drives was obtained from wood-fired steam engines. The initial engine installed when the scour was opened has now been fully restored and is operated through the main tourist months to drive the scour lines. It is a single cylinder, double-acting slide valve type with piston diameter 18inch (45cm), stroke 28inch (71cm) and an 8feet (2.4m) diameter flywheel. It is claimed to have been manufactured by Mill Brothers of United Kingdom and to be the only one of its type still operating in the world. However its provenance cannot be proven. Reference 2 mentions that unfortunately makers’ plates had been removed from many of the machines by 1990, probably by souvenir hunters. The second steam engine, which is still on site, was an Ajax manufacture, with piston diameter 10inch (25cm) and a 4feet (1.2m) flywheel. Other steam engines were installed over the years to drive other equipment, such as the wool-press, but these are no longer on site. The initial boiler was a Babcock and Wilcox design and powered the initial stationary steam engine, and the second, a Jackass boiler, was installed probably at the same time as the second steam engine.

The scour was operational by mid-1908. It had cost around 20 000pounds.

The railway line construction to Blackall commenced in 1905. A design plan for the siding to serve the woolscour was approved in 1907 and the siding line was operational by May 1908.

Graziers from many of the surrounding properties used the scour to process their clip. Not everyone was pleased with the operation. For example, Messrs Clarke and Whiting of Isis Downs Station and the owners of many stations surrounding Isis Downs such as Emmet Downs and Avington used the scour, with *The Rockhampton Morning Bulletin* reporting on 31 July 1913 that “10480 sheep from Avington – Clarke and Whiting owners” had been processed at the scour, but the manager Luck of Isis Downs Station advised Whiting on 21 May 1911 that “I do not like the idea of scouring at the latter place (Blackall) as do not consider it is by any means well done”.

The scour operated with varying outputs continuously from 1908 to 1978, under a number of different owners. The Blackall Proprietary Woolscouring Company sold its interest in the scour in 1913 to the Western Queensland Meat Export Company of Melbourne, which operated the scour until 1964.

Other interests controlled the scour until its closure in 1978. It remained idle from 1978 until 1989 when the Historical Woolscour Association was formed to develop the site for cultural tourism. It has proved to be a very successful and important tourist venue.

Assessment of Significance

Historic Phase

The Blackall Woolscour was state-of-the-art engineering when it was constructed in the early years of the twentieth century and it was modified and updated as the century progressed. It was one of some eleven or twelve woolscours operational in the western areas of Queensland, but only at Blackall are there any significant remains of that industry. Blackall has retained much of its early machinery, most of it now in well-maintained operating condition. It was typical of industrial processing works of the era in which it was established, and is now the only known remaining example of its type in Australia. In addition, its 1908 Steam Engine is claimed to be the only one of its type in the world still operational.

Historic Association

Wool growing was the most important industry in the western areas of the eastern Australian States for many years of the 19th and 20th centuries. Processing the fleece in mechanised woolscours had a vital role in this industry for over a century. In Queensland, woolscours were established in the western areas of the State, while in other States the trend was to establish these industries closer to major settlements. However today, the Blackall Woolscour is the only known surviving example of an early 20th century mechanised woolscour remaining in Australia, and so provides a critical and irreplaceable link with Australia's early rural industries and history.

Creative/Technical Achievement

The buildings on the site vary from well-engineered and well-constructed examples of large timber construction through to examples of bush carpentry. The machinery installed – the steam engines, the boilers, the pumps, the drive shafts, the pulleys, the scouring lines with their cast iron washing tanks and oscillating forks, the bins, the rollers, the dryers, the shearing tools, the wool-presses - all were of a quality that has proven to be lasting. It has not been discovered who - if any - persons advised the five principals of the Blackall Proprietary Woolscouring Company when they placed their orders for the structures and equipment, but it is probable that they were guided by a study of

what had been successful in other scours already operating in Australia, all of which have now fallen by the wayside.

Blackall Woolscour demonstrates quite clearly the competency of early 20th century engineers, and how important that was to the Australian economy of that era.

Research Potential

The fact that this scour is still operational, not only opens a large area for research into the operational procedures in the wool industry, but it also may provide valuable research opportunities for the continuing development of the industry in the future.

Social Relevance

In its earliest operations, the Blackall Woolscour provided not only paid employment for several citizens of the Blackall area – itself a valuable social service – but also a cheaper option for preparing the wool product of the grazing properties in its vicinity for market, thus aiding the prosperity of the whole district.

It has also provided a long and varied history of social relevance outside its main function. For example, *The Brisbane Worker* reported on 5 September 1908 that “Miss H F Powell addressed a very large audience at the Blackall Woolscour recently on the question of Socialism”.

Today, it serves as a major tourist attraction in Western Queensland. Recent comments in the Visitors’ Book at the Woolscour include

- 📝 *Great experience*
- 📝 *Thanks for all your passion and perseverance; a National treasure in your hands*
- 📝 *Here thirteen years ago; can see the improvements. Loved it.*

Websites such as that of tripadvisor (www.tripadvisor.com.au) contain more lengthy comments. A few examples are quoted here:

On 23 August 2013:

This is a little known piece of Australian history but one which every Australian should experience. The ingenuity, tenacity and pioneering spirit of these great Australians is something to behold. The tour guide had first hand experience from working at the scour and the steam engine engineer was a wealth of knowledge and was more than happy to answer our questions. As a Longreach local it is to my shame that I hadn't visited the wool scour sooner. Congratulations to the community of Blackall for restoring this important piece of Aussie history back to working condition. A must see for all Australians young and old.

On 19 August 2013:

This is the only woolscour left in Australia. It is a wonderful piece of Australian history. It is well worth the 4 km detour from the main highway. Restored as a community project, it commemorates the days when sheep formed the basis of much of the country's economy. Tours are on the hour and really should be taken as that is the only way to actually enter the building where the shearing of the sheep and scouring of the wool occurred. The entire visit can be completed in an hour but one could linger and explore for longer. While fascinating for adults, it is also a place where children can learn firsthand, and seeing the equipment is really interesting.

On 16 August 2013:

What a fantastic piece of wool industry history. Blackall Woolscour has THE ONLY Mills Brothers steam engine left operating on steam in the whole world. It is fully restored and is operating the machinery that was built in 1908. 17,000 volunteer hours were spent over 12 years to restore this piece of history. The wonderful volunteer folk that restored it and now run tours through it are really battling to keep the funds up to keep it open. It is set in beautiful grassed grounds with a spring running into a pond. Our guide was fantastic, she knew all about the operation. She has lived in Blackall all her life and used to work at the plant when it was in operation. Stay the night at the Blackall caravan park or cheap camp on the common in the middle of town and make this visit a must on your bucket list.

From the above, one may conclude that not only did the Blackall Woolscour have an inherent Social Relevance from its establishment in 1907, but that relevance has continued, and increased, albeit in a different genre, today.

Rarity/Representativeness

The Blackall Woolscour was representative of its type when constructed in the early years of the twentieth century, but being the only survivor of its type in the country, it is unique. It will be preserved for future generations as long as there are volunteers like those presently involved in its activities to both entertain and educate tourists.

Integrity/ Intactness

The Blackall Woolscour is fortunate that

- ② it has most of its earliest machinery still on site, and
- ② the process for which it was established, ie. for scouring the woollen fleeces, can still be demonstrated in the exact same manner in which it operated down the years by the same machinery used in those operations.

Statement of Significance

The Blackall Woolscour, a collection of buildings established over 100 years ago around the centrepiece of the Main Building which houses the shearing board, the scour lines, their steam powered driving engines, the wood-fired boilers, the wool press and the wool room, has both heritage and engineering heritage significance. When it was established, mechanical woolscours were a common feature of Australia's grazing area. Now it is the only example of this type of industrial processing works remaining in Australia, and its original structure and equipment remain largely intact and in working condition. Its restored and operational Steam Engine may be of world-wide significance.

The Blackall Woolscour provided local and wider community socio-economic benefits for some seventy years of its operating life. Its current public role is

- to educate and inform both children and adults about the important role the wool industry has played in the development of Australia,
- to show, by actually operating the scour, how scouring processes were applied from early in the 1900s,
- to demonstrate the quality and longevity of engineering design and construction of a century ago,
- and, combining the above, to provide an important tourist attraction for the outback town of Blackall.

Without the Blackall Woolscour, today's society would be the poorer.

Interpretation Panel Content Outline

- Importance of wool industry to Australia's economic development
- General layout of the site with its many buildings, bore etc. P1
- Technical development of the process of cleaning the fleece, from washing the sheep through to fully mechanised scouring, drying and pressing.
- Brief summary of the mechanised scouring process, with diagram P2
- The railway's important role in transporting the finished product to the eastern seaboard P3
- The technical details of the scour line drives P4
- The steam engines on site P5
- The bore, essential to the scouring operation P8, P10
- History and conservation activities of the current owners, the Blackall Historical Woolscour Association Inc.
- Typical of the blueprint plans used during installation of the woolscour machinery P6, P7
- Historical photos from John Oxley Library P8 – P13

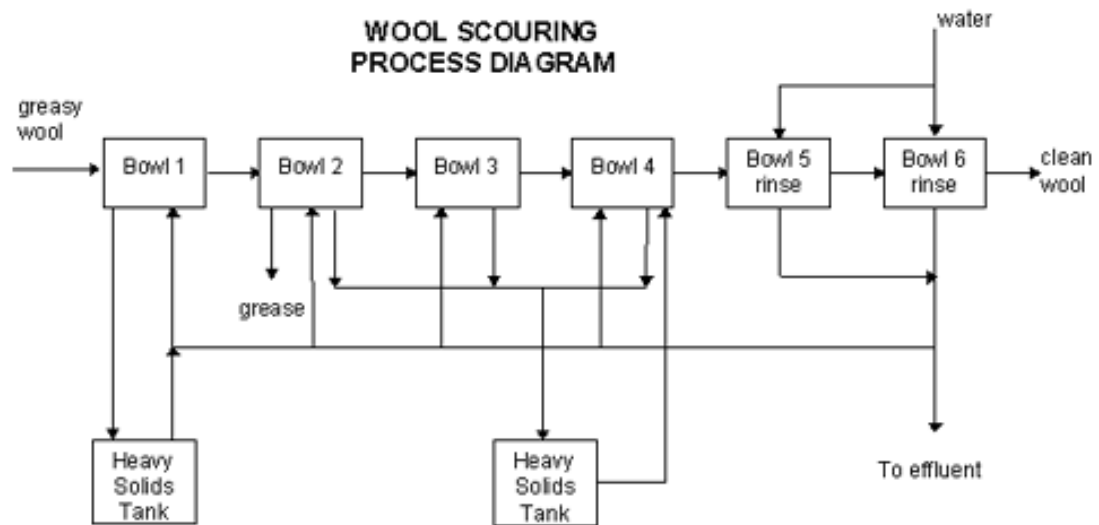
Possible Illustrations on the IP; a selection from those below would be made so as to effectively illustrate the text.

P1

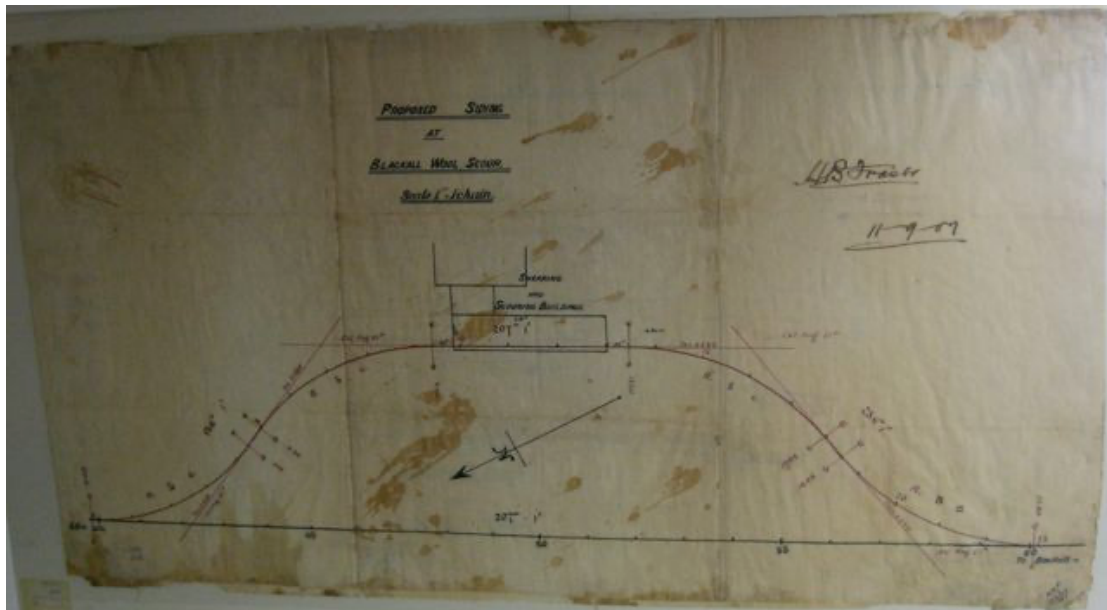


View of some of the many structures on site, with the artesian bore in front of the scour building. The heritage tractors are attached to a metal delver.

P2



P3



The design plan of the railway siding to serve the scour, initialled AHF dated 10/9/07, and approved by HB Fraser, Resident Engineer, Jericho-Blackall, dated 11/9/07.

P4



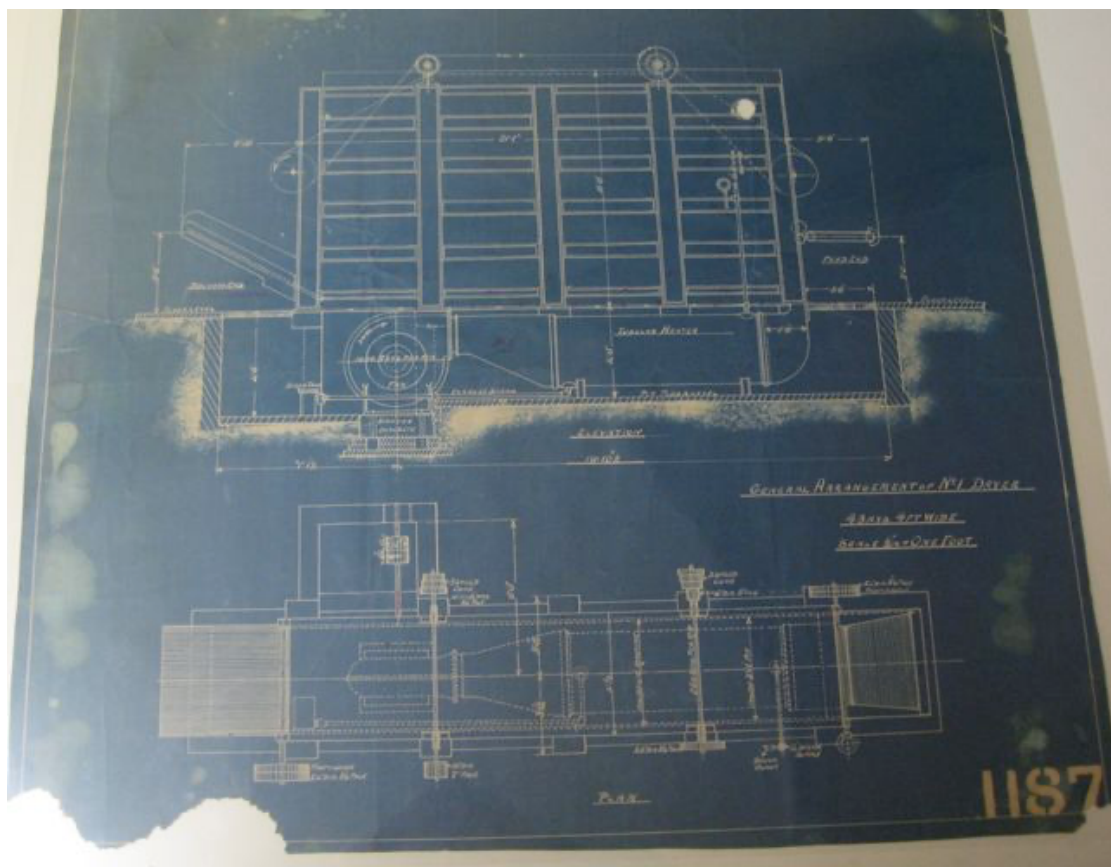
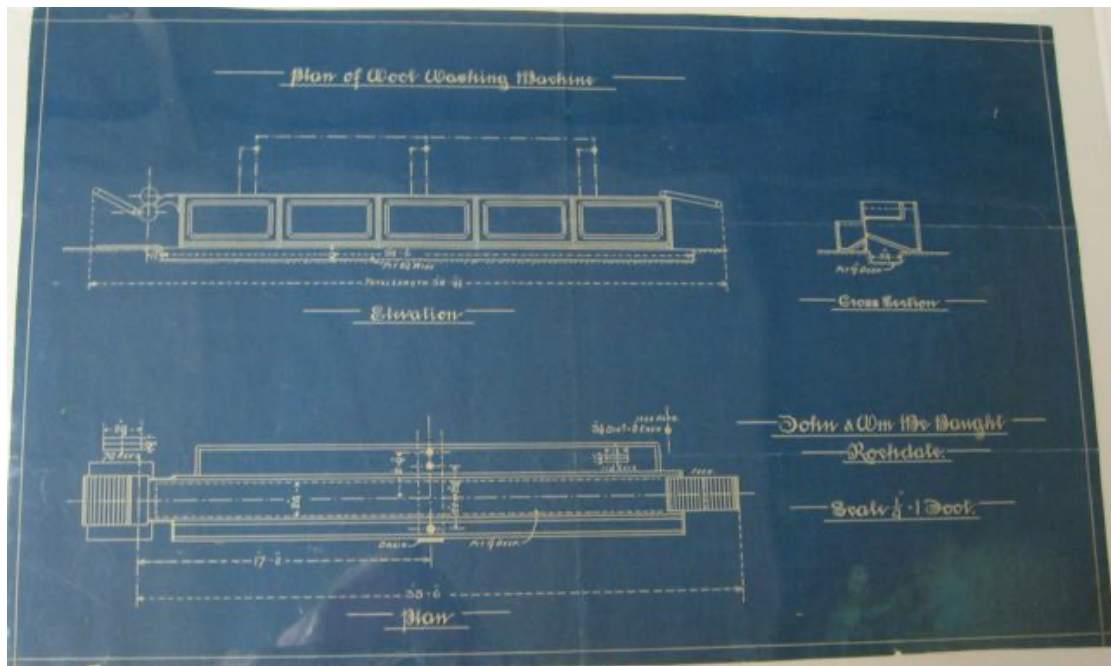
One of the operating scour lines, the wool passing through the bins from right to left in this photo

P5



The 8ft (2.4m) diameter flywheel of the main stationary steam engine

P6, P7



P8



Christening of the Blackall Woolscour Bore, 1906

P9



A special train at the Blackall Woolscour siding, 1908

P10



The Blackall Woolscour Artesian Bore, 1906

P11



The Blackall Woolscour site, circa 1908

P12



The Blackall Woolscour staff, 1908

P13



Inside the Blackall Woolscour, 1908, showing the timber truss roof design.

Logos

- Engineers Australia,
- Blackall-Tambo Regional Council,
- Blackall Historical Woolscour Association Inc.
- The EHA heritage recognition marker disc .

Marker Award ceremony

An on-site recognition ceremony is planned for early May 2014

References

1. **The Blackall Woolscour**, Queensland Department of Environment and Heritage Protection, State Heritage Register Citation, Place ID 600033, entry date 21/10/1992.*
2. **The Blackall Woolscour Conservation Study Report, Volume 1.** Allom Lovell Marquis-Kyle, Architects, 1991. *
3. **The Blackall Woolscour Complex, Queensland: Conservation Management Plan, Volume 1.** Godden Mackay Logan, 2000. *
4. **Hydraulic Henderson, Water Resources Pioneer**, Raymond L. Whitmore. Published by Engineers Australia, Queensland Division, 2009.
5. **Newspapers, *The Rockhampton Bulletin*, *The Capricornian* (Rockhampton), *The Western Champion and General Advertiser for the Central-Western Districts*, (Barcaldine), *The Worker* (Brisbane), *The CourierMail* (Brisbane)**, selected issues from July 1906 to April 1938, accessed through Trove; its website is www.trove.nla.gov.au
6. **"Isis Downs Station, the 1910s, a decade of Development.** Ian Waples, Loveofbooks.com.au, 2011.
7. **Engineering Heritage and Conservation Guidelines, 2009.** Engineering Heritage Australia.
8. **The Fryer Library, University of Queensland.**
9. **The State Library of Queensland, the John Oxley Library photo collection.**
10. **Woolscouring in Western Queensland.** Thom Blake, revised version of paper presented to the Royal Historical Society of Queensland, July 1990.
11. **International Stationary Steam Engine Society Bulletin**, Volume 29, Number 3.

Note * These reports are available on line from the Library Catalogue of the Dept of Environment and Heritage Protection & Dept. of National Parks, Recreation & Racing, <http://www.ehp.qld.gov.au/>

Cover: Map of Queensland courtesy of Wikimedia, and Site photos by BL McGrath.

Agreement of Owner



BLACKALL WOOLSCOUR

PO BOX 200

BLACKALL, QLD, 4472

Phone/fax: (07) 4657 6042 Email: blackallwoolscour@bigpond.com

25th August 2013

Mr B. McGrath
229 Taringa Parade
Taringa, QLD 4068

Dear Brian,

The Blackall Historical Woolscour Association Incorporated is extremely honoured to have been nominated for an engineering recognition award under the Heritage Recognition Program of Engineers of Australia. The initial proposal has been approved by the Management Committee and they are willing to take the responsibility for the maintenance of the markers and interpretation panel.

The Blackall Woolscour consists of a collection of buildings dating back to 1908 on the outskirts of Blackall township. The buildings, their machinery and the site form an industrial complex that is uniquely intact, operating ceased in 1978. The Woolscour fell into disrepair until the Historical Woolscour Association was formed in 1989 and developed the place for cultural tourism.

Blackall has the only fully intact steam-powered wool washing plant left in Australia. The steam engine which has been fully restored is the last Mills Bros steam engine operating in the world.

The historic Blackall Woolscour is a living museum and a direct physical link to Australia's pioneering era. It is totally authentic, unique, full of history and has great educational and social values. The Woolscour operated commercially under steam power from 1908 until 1978, and it is now a major tourist attraction, the machinery is as functional now as it was then.

Yours Sincerely,

Bob Harvey

President